



EZ-EL Wire/LED Light Wheelchair

Written By: EZELWire



TOOLS:

- [Pliers \(1\)](#)
- [Wire cutter \(1\)](#)



PARTS:

- [25' EI Wire + 3V Inverter \(2\)](#)
- [10' EI Wire + 3V Inverter \(2\)](#)
- [Two-way Splitter Connectors \(2\)](#)
- [LED Light \(1\)](#)
- [Masking tape \(1\)](#)
- [28-gauge galvanized wire \(1\)](#)
- [Clear zip ties \(1\)](#)
- [AA Batteries \(4\)](#)
- [Binder clips \(1\)](#)

SUMMARY

This guide will teach you how to deck out your very own wheelchair with EZ-EL Wire! For more cool ideas check out <https://ez-el.com/tutorials>!

The EZ-EL Wire Kit you will need for this project can be purchased at <http://www.ez->

el.com/catalog/products.

Enter coupon code **MAKEwheelchair** at [checkout](#) for a discount!

Step 1 — EZ-EL Wire/LED Light Wheelchair



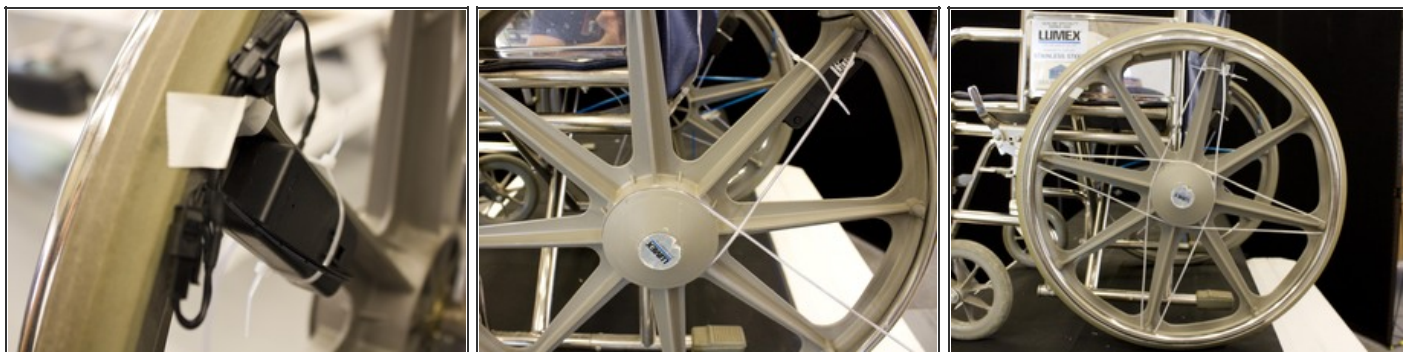
- This is what the finished product will look like!

Step 2



- For this particular design, each wheel has one 25' Sky Blue EL Wire shaped like an "X" in the center of the wheel. This wire also outlines once along the circumference of the wheel's tire. On top of this Sky Blue wire is another "X" design, but made with a 10' Blue EL wire and this does not run along the wheel's tire. The last design is made with an LED Light strip which outlines the bottom of the seat, giving the whole wheelchair a luminescent glow. Feel free to use your own EL wire colors and designs!
- Decide what the desired pattern will be. If needed, sketch out the design and create a number-sequenced diagram of each defining movement.
- Use your EL Wire to help guide you in creating your pattern.
- For this particular pattern, use masking tape to secure the EL wire down as you progress through your design.

Step 3



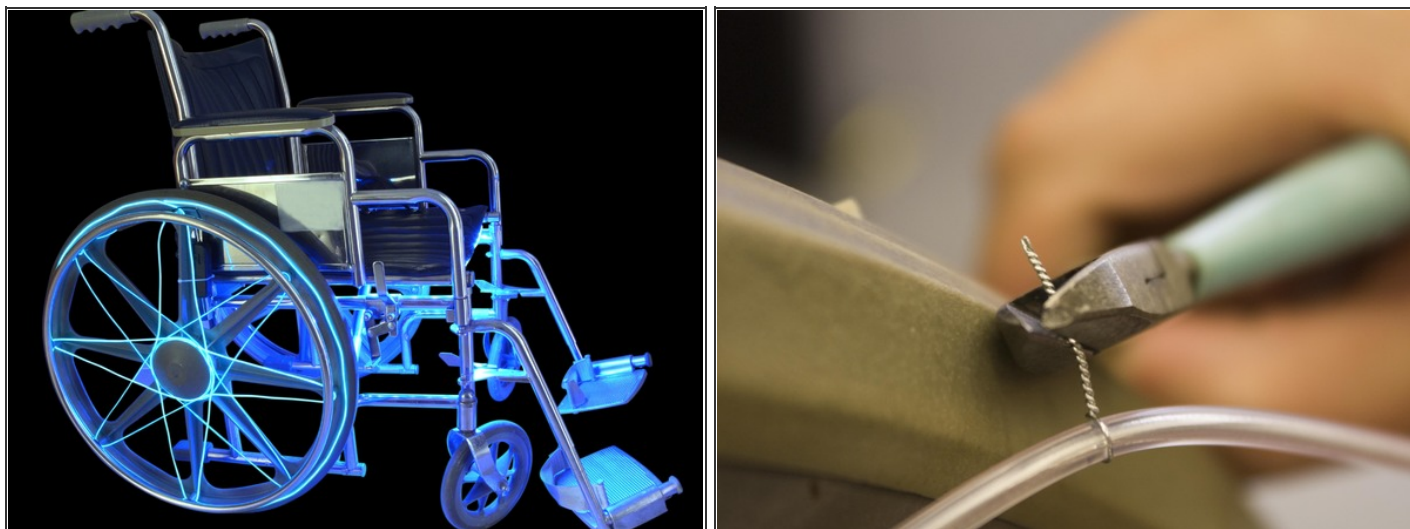
- Beginning with the 25' Sky Blue EL wire, secure its inverter inside the spoke of the wheel with either tape or zip ties. This allows the user to easily turn the power on just by dropping his/her hands down to the sides of the chair.
- Begin following the number-sequenced diagram while pulling tightly to keep the shape sharp.
- Once the first sky blue X design is completed in the wheel, the wire should end where it started, which is near the inverter.

Step 4



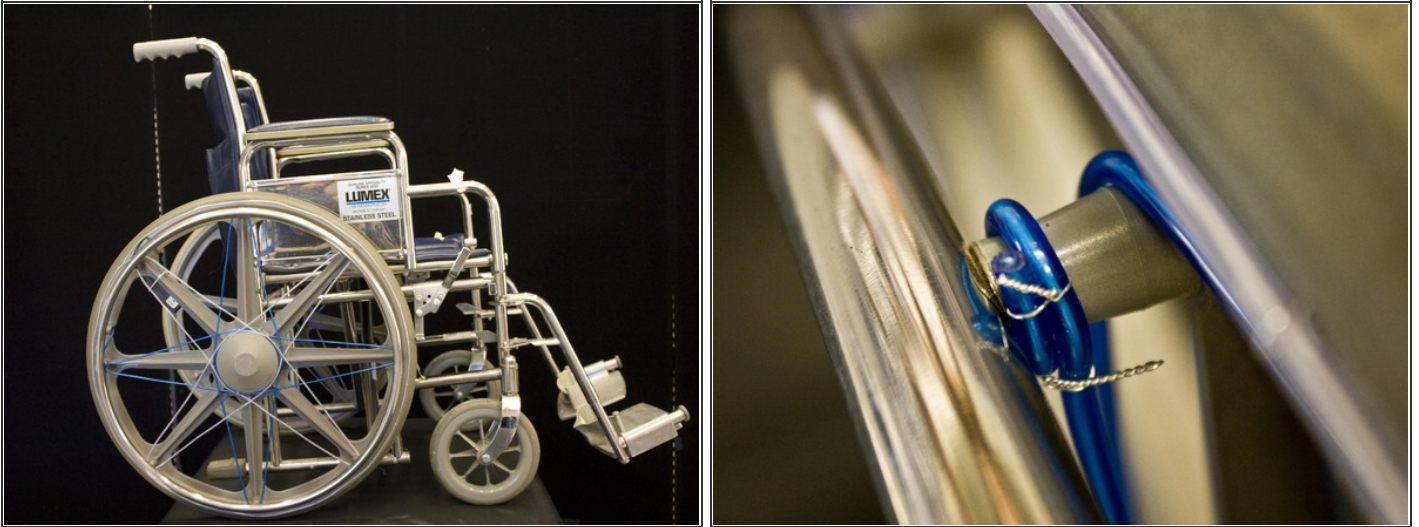
- Now, continue using the rest of the 25' Sky Blue wire to outline the plastic rim of the wheel. As the wire moves along the tire, frequently tape the wire down to keep the form secure and maintain its circular shape.
- Do not cut excess wire yet.


Step 5



- Now that the basic shape is there for the first Sky Blue X design, use galvanized wire to securely place the wire onto the tire without the tape.
- Cut roughly 2.5" of galvanized wire.
- Wrap the galvanized wire around the EL wire once and twist the ends with needle-nose pliers until the 2 ends are tight and straight.
- Use a wire cutter to cut the galvanized wire ends until about 2-3 cm is left.
- Stick the twisted galvanized wire between the plastic rim and the rubberized tire with your finger.
- Remove tape as you complete each section around the tire.
- Repeat steps A-E to circle the entire tire.
- GOnce the end of the 25' Sky Blue EL wire reaches full circle, snip off the rest of the wire with a wire cutter and pin down the remaining wire with galvanized wire again to secure the end. Your final product should be complete, as there will be no more modifications for the Sky Blue wire.

Step 6



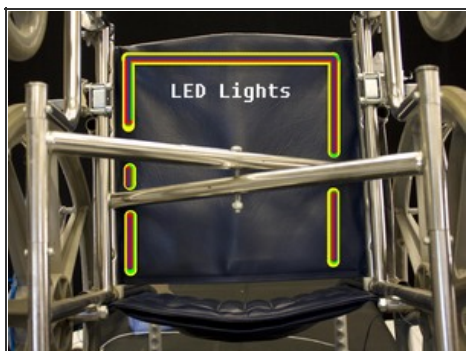
- Remove the inverter from the 10' EL wire. It will not be needed because there will be a two-way split cable to avoid the chunkiness of having two inverters on each wheel.
- Using the 10' Blue wire, attach the inverter connector to the two-way split connector and tape it down to the wheel.
- Just as before, follow the numbered sequence for your second X numbered diagram.
- Important Note: Whenever this wire intersects with the first 25' wire when crossing, always put the 10' wire behind the pattern of the initial 25' wire. This will help keep the form and shape of both the wires. Pull tightly. 
- After the second X is completed in the center of the wheel, take the end of the wire and loop it around an area that will keep its X shape. Pull tightly.
- The 10' Blue EL wire will not hold itself in the loop, so use either galvanized wire or a zip tie to secure the looped areas together.
- Snip off any remaining EL wire with a wire cutter.

Step 7



- The insides of the wheels should have loose connector wires. Secure these connector cables by gathering the cables in a thin strip.
- Use pliers to twist the galvanized wire connector cables together.
- Cut off excess galvanized wire.
- Stick the twisted galvanized wire in between the rubber tire and plastic rim.
- Repeat steps until the rest of the inverter cable wires are neatly hidden from view.

Step 8



- Attach LED Lighting.

Step 9



- Packaging LED strip components. Connect all the LED components together.
- Put all the components into the EZ-EL velcro bag.
- Place the entire bag into the back pocket of the seat.

Step 10



- Now that all the EL wires are in place, test out the wheelchair with everything powered on. Make sure that the inverters on both sides do not collide with the chair when the wheels are spinning. If any of the EL wires at the intersections are loose, use galvanized wire to secure them into place.
- Enjoy your awesome wheelchair!

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